**K-5 Math Lesson Plan**

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| **Teacher: Childress, Gilbert, Wall** | | | **Grade: 5** | | | **Date(s)**: Task 2, Day 1 |
| **Unit Title: Understanding the decimal place value system** | | | | **Corresponding Unit Task: Summer Olympics Task** | | |
| **Essential Question(s): How do I read, write, and use decimals to the thousandths using base 10, expanded form and number names?** | | | | | | |
| **Materials/Resources** | | | | **Essential Vocabulary** | | |
| **Teacher: decimal cards** | | **Student: pencils, color coded decimal cards, Independent practice activity, sticky notes** | | | **Thousands, hundreds, ones, tenths, hundredths, thousandths, standard form (base-ten numerals) expanded form, word form (number name) flat, long rod, and cube** | |
| **Learning Experience** | | | | | | |
| **8 Mathematical Practices:**  1. Make sense of problems and persevere in solving them.  2. Reason abstractly and quantitatively.  3. Construct viable arguments and critique the reasoning of others.  4. Model with mathematics.  5. Use appropriate tools strategically.  6. Attend to precision.  7. Look for and make use of structure.  8. Look for and express regularity in repeated reasoning. | **Common Core State Standards: Read and write decimal numbers to thousandths using base-ten, number name, expanded form.** | | | | | |
| **I Can Statement(s): I can read, write, and use decimals to the thousandths using base-10 numerals. I can read, write, and use decimals to the thousandths using number names. I can read, write, and use decimals to the thousandths using expanded form.** | | | | | |
| **Activating Strategy/Hook:** (Teacher will need to create a different color-coded set of cards for each small group.) In small groups, students will receive a set of color-coded cards with numbers to the hundredths. They will place these cards in order from least to greatest. (Example: five index cards labeled 3.2, 3.23, 3.32, 3.01, 3.10) | | | | | |
| **Teacher Directed:** Teacher will teach students how to check the activator with the “line up –strategy” moving a cover from the decimal to the right. Students then use this strategy to check their activator solution. At this point, teacher will introduce an additional card for the thousandths place (sixth index card, example 3.312) and show how to determine this number’s place in the order of the example on the board. Then small groups will be given the sixth index card for their specific sets to place in order. Teacher checks each table group for accuracy. | | | | | |
| **Guided Practice:** In their small groups, students will rotate card sets and continue ordering the decimals using the “line-up strategy.” | | | | | |
| **Independent Practice:** Students will be given a word bank and have to label the place value chart correctly. They will then use the digits they are given and create the largest and smallest number possible. (attached) | | | | | |
| **Closing/Summarizing Strategy:** Teacher will place three numbers on the board. Each student will be given a sticky note. They will place their numbers in the order form least to greatest on the sticky notes. (82.2, 82.01, 82.101) | | | | | |
| **Differentiation Strategies** | | | | | | |
| **Extension** | | | **Intervention** | | | **Language Development** |
| * Students can include fractions as they represent the numbers. * Students may develop additional cards using thousandths that can be added to the sort | | | * Students will color code each place value with various highlighters * Go back and start ordering whole numbers and then add in the tenths place. | | | * Abbreviated form of task. Give a smaller deck of cards |
| **Assessment(s):** Teacher will review the sticky notes from the ticket out the door and use this information at the start of tomorrow’s lesson. | | | | | | |
| **Teacher Reflection:** (Next steps?)  Student understanding/misconceptions  Who needs to be retaught based on the ticket out the door? | | | | | | |

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| **Teacher: Childress; Gilbert; Wall** | | | **Grade: 5** | | | **Date(s)**: Task 2/ Day 2 |
| **Unit Title: Understanding the decimal place value system** | | | | **Corresponding Unit Task: Summer Olympics Task** | | |
| **Essential Question(s): How do I read, write, and use decimals to the thousandths using base 10, expanded form and number names?** | | | | | | |
| **Materials/Resources** | | | | **Essential Vocabulary** | | |
| **Teacher: Decimal cards and sticky notes from Task 2 Day 1 lesson; base ten blocks** | | **Student: pencils, math journals** | | | **Thousands, hundreds, ones, tenths, hundredths, thousandths, standard form (base-ten numerals) expanded form, word form (number name) flat, long rod, and cube** | |
| **Learning Experience** | | | | | | |
| **8 Mathematical Practices:**  1. Make sense of problems and persevere in solving them.  2. Reason abstractly and quantitatively.  3. Construct viable arguments and critique the reasoning of others.  4. Model with mathematics.  5. Use appropriate tools strategically.  6. Attend to precision.  7. Look for and make use of structure.  8. Look for and express regularity in repeated reasoning. | **Common Core State Standards: Read and write decimal numbers to thousandths using base-ten, number name, expanded form.** | | | | | |
| **I Can Statement(s): I can read, write, and use decimals to the thousandths using base-10 numerals. I can read, write, and use decimals to the thousandths using number names. I can read, write, and use decimals to the thousandths using expanded form.** | | | | | |
| **Activating Strategy/Hook:** Based on sticky notes from yesterday’s Closer Activity (Ticket out the door), teacher will place those that understand concept with those that need extra assistance and they will reteach using colored decimal cards sets from yesterday’s activity. | | | | | |
| **Teacher Directed:** Teacher will have the students create the following chart in their math journal. Teacher will provide a number and explain how each form is expressed.   |  |  |  |  | | --- | --- | --- | --- | | **Base 10 Form** | **Number Name** | **Expanded Form** | **Illustrate** | | **491.562** | **Four hundred ninety one and five hundred sixty two thousandths** | **400 + 90 + 1 + 5/10+ 6/100 + 2/1000** |  | |  |  |  |  | |  |  |  |  |   Teacher will next model decimal numbers using base ten blocks: cubes, flats, rods, units. Teacher will take a number and model how to illustrate and write the number using base ten form, number name and expanded form. Teacher will stress that expanded form can be expressed in 2 ways. Example from above: 4 x 100 + 9 x 10 + 1 x 1 + 5 x (1/10) + 6 x (1/100) + 2 x (1/1000). When completing the chart, be sure that students alternate using the different expanded forms to become familiar with both. Point out that although the order of operations ( PEMDAS) requires solving the operation in parentheses first, there is not an operation to perform. The parentheses in this situation is just to set apart the fraction in the equation. | | | | | |
| **Guided Practice:** Students will be placed in groups of 4. (If you need a group of 3 leave out Person 4.) Teacher will write numbers on the board. Students will build the numbers with their base ten blocks then rotate their turns representing the numbers in various ways (Person 1: illustrate, Person 2: number name, Person 3: expanded form, Person 4:base 10 form.) | | | | | |
| **Independent Practice:** Students will refer to the journal entry made at the beginning of the lesson and will now illustrate the number that was given. Teacher will place two additional numbers on the board. Students will complete the 2 final appropriate rows for these numbers. | | | | | |
| **Closing/Summarizing Strategy:** Turn to your shoulder partner and explain at least 2 ways you can represent a number. | | | | | |
| **Differentiation Strategies** | | | | | | |
| **Extension** | | | **Intervention** | | | **Language Development** |
| Students will create decimal cards that show number name, expanded form and illustration. Once cards have been made, they can be placed in order. | | | * Roll dice and create a number. * Practice writing numbers in base-ten form. * Students will practice reading numbers out loud. | | | * Students will match the numbers with the correct forms. |
| **Assessment(s):**  Teacher will check journals for accuracy | | | | | | |
| **Teacher Reflection:** (Next steps?)  Student understanding/misconceptions  Reteach?  Continue with base ten but build understanding with parts. | | | | | | |

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| **Teacher: Childress; Gilbert; Wall** | | | **Grade: 5** | | | **Date(s)**: Task 2/ Day 3 |
| **Unit Title: Understanding the decimal place value system** | | | | **Corresponding Unit Task: Summer Olympics Task** | | |
| **Essential Question(s): How do I read, write, and use decimals to the thousandths using base 10, expanded form and number names?** | | | | | | |
| **Materials/Resources** | | | | **Essential Vocabulary** | | |
| **Teacher: sales fliers,**  **“ x 10” card** | | **Student:**  **Pencil, calculators, journals** | | | **Thousands, hundreds, ones, tenths, hundredths, thousandths, standard form (base-ten numerals) expanded form, word form (number name) flat, long rod, and cube** | |
| **Learning Experience** | | | | | | |
| **8 Mathematical Practices:**  1. Make sense of problems and persevere in solving them.  2. Reason abstractly and quantitatively.  3. Construct viable arguments and critique the reasoning of others.  4. Model with mathematics.  5. Use appropriate tools strategically.  6. Attend to precision.  7. Look for and make use of structure.  8. Look for and express regularity in repeated reasoning. | **Common Core State Standards: Read and write decimal numbers to thousandths using base-ten, number name, expanded form.** | | | | | |
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| **Activating Strategy/Hook:** Give students sales fliers from newspapers. (toys r us or grocery stores) Students will chose an item and at their table groups discuss the different ways they can demonstrate the value of the item. | | | | | |
| **Teacher Directed:** Teacher will have students share some of their findings from the activator. Teacher will point out again that there are different ways to read and write decimals. Teacher writes 5.555 on the board and explains that each place in a decimal has a value that is ten times the value of the place to the right. For example, in 5.555, the 5 in the hundredths place has a value of 0.05. That is ten times the value of the 5 in the thousandths place. 0.005 x 10 = 0.05 (LEFT MEANS LARGER) Next teacher will write 888.88 in the following version: 8 x 100 + 8 x 10 + 8 x 1 + 8 x (1/10) + 8 x (1/100). Teacher will point to the 1/100 fraction and ask students to multiply by 10 using their calculators. Continue this process up to 10 x 10. | | | | | |
| **Guided Practice:** Have a student come forward and hold a large card that reads  “x 10”. Teacher will have place value positions drawn on the board. Students will manipulate themselves and form “numbers” to show how going to the left will increase your number by ten. If s student is 8 in the ones place and the card holder puts him in the tens place, he is now 80. (10 x 8 ) Keep repeating this process and have the remaining students check with calculators to prove the answers. | | | | | |
| **Independent Practice:** Students will respond in their math journal:Thomas said that the number 0.03 has a value 10 times greater than 0.003. A.) Is he correct? Explain your answer. B.) What number is ten times greater than 0.3? Explain your answer. | | | | | |
| **Closing/Summarizing Strategy:** In journals have students draw a picturefor the number as well as write in base ten (standard) and number name ( word form.) 5 x 1000 + 6 x 100 + 3 x 10 + 7 x 1 + 9 x (1/10) + 4 x (1/100) + 8 x (1/1000) | | | | | |
| **Differentiation Strategies** | | | | | | |
| **Extension** | | | **Intervention** | | | **Language Development** |
| Students can add to journal entry: What number would be 100 times greater than 0.3? 1,000 times? 1/10 of 0.3? Explain how this relates to today’s lesson. | | | * Use shaded grids to show the increasing by 10 concept | | | * Use shaded grids to show the increasing by 10 concept |
| **Assessment(s):**  Teacher will review journal. | | | | | | |
| **Teacher Reflection:** (Next steps?)  Are students ready for Task 2 administration? | | | | | | |

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Independent Activity for Task 2

Understanding Place Value

1. Using the word box below, label the blanks with the correct place value words.

**thousandths, ones, tenths, hundredths**

**\_\_\_\_\_\_\_\_\_\_ . \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_**

1. Using the following numbers, create the largest possible number: 8,2,0,1

**\_\_\_\_\_\_\_\_\_\_ . \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_**

1. Using the following numbers, create the smallest possible number: 8,2,0,1

**\_\_\_\_\_\_\_\_\_\_ . \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_**

Extend your thinking: How are you able to determine that the number in problem #2 is larger than the number in problem #3?